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AN
E S S A Y

TOWARDS AN
INVESTIGATION

Of the present successful, and most general

M E T H O D

OF
INOCULATION.

[Price One Shilling.]

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[Printed by ...]

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TOWARDS AN
INVESTIGATION

Of the present successful, and most general

M E T H O D
O F
INOCULATION.

By B. CHANDLER, Surgeon at Canterbury.

Sic enim decet Investigatorem veri, non solum quæ legerit, sed & quæ secum ipse meditando considerat & contemplatur, in communem fructum proferre.

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M.DCC.LXVII.



A N

E S S A Y, &c.

THE great success, with which Inoculation for the Small Pox has of late been practised in this and several other counties by Mr. Sutton, his family, and assistants, has justly engaged the attention and confidence of almost every individual: and it is no wonder, that old prejudices and objections should be worn off, and borne down by the uncontroverted accounts of twenty thousand of all ages and all constitutions, having gone through the operation without the loss of a single patient, whose death could be fairly ascribed to the disease.

A discovery of such importance, attended with such uninterrupted happy consequences, must and ought to reflect great honour on the Inventor; and will, I make no doubt, in the annals of this kingdom,

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render

render the present age a conspicuous æra,
to all succeeding ones.

But as Mr. Sutton, for very obvious reasons, endeavours to involve his practice in all the obscurity he can; and Dr. Dimf-dale, of whose equal success in Hertfordshire I am very well informed, has hitherto delayed the publication of his book, which we were some months since taught to expect; this improved method of Inoculation, the essential parts of the practice being known only to a few, has not been diffused throughout the nation, with that celerity which its importance very well seems to deserve.

The gentlemen of the faculty would have been deficient in their duty to mankind, had they supinely permitted such an improvement to have passed unnoticed. That it is an improvement, the great success attending it sufficiently evinces, and every man of candour readily allows. Accordingly the world has been favoured with two ingenious pamphlets, signed with the very respectable names of Dr. Baker of London, and Dr. Glas of Exeter, written professedly with a design of paving the way to a general discovery;

very: in hopes of some information, which might be useful to them as Physicians, and render their art still more beneficial to mankind.

I should not have ventured to write on a subject, which has exercised the pens of two authors of their distinguished rank, if Dr. Baker had not observed at the close of his preface, " that he leaves the full conclusion " to be drawn from farther observation, " and established upon more enlarged experience." Or if Dr. Glas had not left the matter still in doubt, by concluding his scrutiny, with, " It seems therefore highly probable, that their singular success is " chiefly owing to their method of disposing " their patients to sweat, and then sweating " them, by the medicines they give after Inoculation and during the eruptive fever."

A number of persons of all ranks have very lately been Inoculated in this city according to the Suttonian method, by one of the partners, Mr. Peale a Surgeon of eminence at Maidstone: and many of them, being my particular friends, desired me to attend, on account of their uneasiness at Mr.

Peale's not being on the spot. By these means I became an eye witness, and, will venture to say too, a sedulous observer of the practice in all its points. From the observation which these opportunities permitted me to make, and the instruction I received from the pamphlets before mentioned, I flatter myself I have carried the investigation somewhat farther than either of their Authors. And in this I am confirmed by some experiments, which I have lately made. I say lately, for at the beginning, when the unparalleled and invariably good effect of this mode of Inoculation was in every body's mouth, and I considered that persons Inoculated in the old way had sometimes a full eruption, and recollected some few instances, though rare indeed, of those who had died under it; I refused many who applied to me for the operation, and recommended them to Mr. Peale. Still in hopes that the publication of Dr. Dimsdale's book on the subject long ago advertised, or my own observation, would furnish me with that knowledge, which I was conscious I yet wanted, to make my practice as secure as theirs. My desire of unravelling the mystery at last seemed to succeed, and by frequent

frequent reflection on the subject, I was struck with a thought which appeared of the last importance, and determined me to make a trial of it, as soon as a proper opportunity occurred.

At this time, a number of persons in the neighbourhood of Chilham being desirous of Inoculation, I joined with Mr. Mantell a Surgeon of reputation and experience there; and have in conjunction with him, and at other places by myself, Inoculated great numbers without any choice of subjects, as nobody has been refused on account of age, constitution, or infirmities. All of them have been in every stage exact copies of Mr. Peale's patients; and not one of them has given us a moment's uneasiness, either on account of the previous symptoms or consequent eruption.

As it may be necessary for the conviction of others, to trace the discovery by the steps which led me to it, I take the liberty of making some remarks on Dr. Baker's inquiry and on Dr. Glas's letter: their accounts of the Suttonian method, differ in some things from what I saw practised here by Mr. Peale: which

which may have happened, from these gentlemen having thought proper to vary their practice, or from some mistakes in the accounts related to those physicians.

Dr. Baker tells us from the information of his friend, " that all persons are obliged " to go through a strict preparatory regimen " for a fortnight : " but the time is now shorter, being only whilst three doses of a powder and purging salt may be taken by adults ; and three doses of a powder only by children, at the intermediate distance of two days from each ; so that the whole of the preparation now takes up only eight days, and on the ninth the operation is performed. I have heard that they intend to shorten the preparatory course still farther, by giving only two doses before Inoculation, and the third afterwards. With respect to the diet, there seems to be no alteration ; and that the composition of the powder is mercurial, its frequent effect of raising a salivation has proved beyond the power of controversy. Some people of an aguish habit have been Inoculated, and many of the scorbutic and scrophulous. As the patients here were all Inoculated at their own or their

their friend's houses, I know nothing of his hospital method. But I think he has entirely desisted from using the matter taken out of the Pock; and always prefers the moisture, from the arm of the communicating subject, before the general eruption. The preparatory regimen is still continued: but as Mr. Peale has seldom seen his patient from the time of Inoculating till the fifth day; the pill is not taken every other night, as in the Doctor's account: for not many have taken them till the fifth. To some few indeed he gives a pill or two immediately after the operation, and on the fifth day to almost all except very young children: and for them he substitutes a little purging salt or senna tea. On the seventh day he has constantly visited again, and from that time continued his attendance daily, till the eruptive symptoms are over; immediately after which, his patients are always out of danger. The pill is generally repeated on the seventh day, is sometimes continued even to the eighth or ninth, and in much larger quantities to some than others. When the eruptive fever comes on, which varies considerably with different subjects in degree, and which a very few entirely escape, a fort-

of

of julep is given, to be drank ad libitum; composed of a small quantity of a medicine, nearly the colour of Madeira wine, poured into a quart or pint bottle of spring water. Its taste is very agreeable, cooling, and sub-acid. And here my observations differ most from the accounts related to Dr. Baker, for though this medicine, if taken upon going to bed, did sometimes seem to occasion a slight perspiration, yet an increased perspiration was never, that I saw or could learn, insisted on in the day, much less a profuse sweat at any time: for none of the patients are allowed to lie in bed, to sit over the fire, or keep within doors, if the weather is tolerable, even during the feverish symptoms, and the only drink allowed is toast water. Probably this punch, as it is called, when taken in the day time was slightly diuretic, but few or none of the patients could discover it had any effect, more than of quenching their thirst: and whatever may be expected from it, it is clear enough in this manner of giving it, that those expectations are not founded on its diaphoretic virtues. These are all the medicines I have ever known given by this gentleman, for as to the Glauber's salt, which

which in Dr. Baker's account is given the day following the first appearance of an opake spot on the pustules, I have never heard it mentioned : and when he has been asked by his patient, whether any physic should be taken after the Small Pox ; he has always answered the question, as a matter of mere indifference.

In Dr. Glas's account, we are told " that the matter used for Inoculation by one of these operators, about a year and half since," but whether of the Sutton family does not appear, " was kept in a small bottle, into which the point of a lancet was dipped to communicate the infection." If this was ever Mr. Sutton's method, I apprehend it must have been longer ago, in the infancy of his practice ; and is now laid aside, for very cogent reasons. " That the patients who had a considerable degree of fever, and felt themselves much out of order, were permitted to lie in bed." This I have known permitted, by way of indulgence, but never advised, much less a continuance in bed till the eruption appeared. That such, who take the medicines at bed time, do fall into a breathing sweat, as

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attested

attested by the church-wardens, &c. at Ewell, is already allowed : all acids are known to have a tendency to pass off by the cutaneous glands, and the draughts of toast water, which the patient may be inclined to drink, from more or less of thirst, will not a little contribute to this effect. But no such consequence of the medicine is ever insisted on ; for, as I said before, every body is desired to walk out ; and I knew one patient, who was severely indisposed for five days, and yet was obliged to go, every day, a considerable distance from her own lodging to visit her Inoculator. Yet that this same medicine, taken more liberally, might with the assistance of a flannel shirt have sweated plentifully the lad, who tumbled into a pond of water a little before the turn of the Small Pox, is very possible ; for it is well known, that the same medicine under different management will be diuretic or diaphoretic, or merely cooling and diluent.

Having thus gone through the process with these gentlemen, let us now hear what they say with respect to the medicines.

Dr.

Dr. Baker is for leaving it to future experience, to decide how far preparations of antimony and mercury may be of use in the preparatory regimen. For the good effects of calomel, we have the testimonies of Dr. Andrew of Exeter, and Dr. Gale of Connecticut, and the observation of Dr. Mead with regard to the infrequent visitations of the Small Pox in the salivating wards of our public hospitals, and its never appearing there but in the most favourable manner. That some, who have prepared with mercury, have not been satisfied that any real advantage is gained by it, I know from experience. As for constitutional antipathies, perhaps they occur but seldom, and I have heard of but one example of any sort, where the patient suffered at all by the mercurial preparation, beyond the inconvenience of a short salivation; and this was a young woman, servant to a farmer, who was indeed pretty highly salivated, in the preparatory course; had the disease moderately as usual, but was afterwards seized with slight maniacal complaints, perhaps owing to her indulging herself in animal food and fermented liquors too soon, before the effects of the calomel were gone off;

and after acting some inconsistencies for two or three days, which shewed a distraction of the mind, she was cured by purging. This disposition can perhaps hardly ever be known, unless mercurials have on some occasion or other been tried before; and whenever it is known, that such subjects may not be excluded, I have no doubt but that two or three doses of any other brisk purgative, may with equal success be substituted in its stead. Dr. Baker observes farther, " that he can much less take upon
 " him to ascertain the effects of mercury
 " and antimony, when given either in the
 " variolous fever, or after the eruption, in
 " both which cases it is supposed, that a
 " medicine composed of kermes mineral
 " and calomel, is often administered." And then concludes his inquiry by saying " that
 " the principal advantage of this method,
 " seemeth to be derived from the use of
 " cold air, in which these gentlemen have
 " indulged their patients in a much greater
 " degree than what has generally been al-
 " lowed."

Dr. Glas is of opinion, " that Mr. Sut-
 " ton's patients do not owe their safety to the
 " free

“ free use of cold air, or any other remedy em-
 “ ployed after the completion of the erup-
 “ tion, but to some means or other, which
 “ prevent them from having a great num-
 “ ber of pustules, and dispose them to re-
 “ ceive the infection so slightly, that in ge-
 “ neral they are never in a situation to re-
 “ quire nursing :” and insists, “ that the ex-
 “ traordinary success of the process depends
 “ on something else besides cool air and the
 “ preparatory course.” Therefore to disco-
 ver what this is, he examines the preceding
 parts of the process; and having taken
 notice that the diet recommended is some-
 what more strict than that which is gene-
 rally prescribed, justly remarks, “ that as
 “ the patients are required to go through
 “ this course of abstinence at their own
 “ homes, it will not always be exactly com-
 “ plied with : and therefore the uncommon
 “ success is not to be accounted for from
 “ the strictness of the regimen.” Dr. Glass
 having mentioned other methods of Inocu-
 lation, such as those practised in Somerset-
 shire, Dorsetshire, &c. which are so success-
 ful, as from the accounts of one operator,
 two only have died out of seventeen hun-
 dred, says, “ the result of various methods
 “ of

“ of preparation, and even Inoculating
 “ without any preparation at all, is in ge-
 “ neral so much the same, it may be quest-
 “ ioned whether the benefit of preparation
 “ is extended beyond preventing the incon-
 “ veniency which may arise from worms,
 “ foul bowels, &c.” Truly it appears to
 me, that if one particular point is duly at-
 tended to, the result of almost every method
 of preparation, whether before or after the
 operation, will be very nearly if not entire-
 ly the same. But this point does not yet
 appear from the labours of these two great
 men. However let us attend the Doctor a
 little farther. His next observation is, that
 patients may be reduced too low by prepa-
 ration, and this assertion is made good by
 much sound practical reasoning, and il-
 lustrated by two very curious cases. That
 it has happened often in the old way of
 Inoculating, cannot be denied: but no in-
 stance has yet occurred to prove it in the new,
 nor is it likely such an one ever will. Here
 Dr. Glass enters into a very instructive di-
 gression, through which it may not be quite
 foreign to our purpose to follow him; not
 only as it contains some very important
 practical inferences, with relation to the
 treatment

treatment of putrid fevers in general, and the malignant Small Pox amongst the rest: but because it may be of some use towards vindicating the characters of physicians from the imputation of a fault, which they have often very unjustly, and sometimes illiberally been charged with. I mean, what has been called, their stiff and contracted adherence to all old customs, particularly that of prescribing hot medicines, and keeping those patients in heated air, who are sick of any putrid fever, but especially the Small Pox. Here the great and necessary use sometimes of hot stimulating medicines, which physicians have found it impossible always to do without; properly joined to that of cold air and cold water, which they have long laboured to introduce, is set forth in the clearest manner possible; confirmed by the case of Sir John Chardin, by the success of the Greek and Neapolitan physicians, and by a strength of argument which cannot fail to convince. Mr. Sutton indeed has been extolled as the great promoter, and foster-father of the cool regimen; and although he has a right, which I have no design to invade, to every honour which a salutary invention can confer, for his great
improvement

improvement in the practice of Inoculation; yet I must think his title in the present case, not quite so valid as it may appear at first sight: that he allows his patients cold air and cold water in sufficient abundance, we have ocular demonstration, and do not wish to deny: his patients may do any thing; the sort of Small Pox he gives by his Inoculation, is such as even nurses cannot make fatal. But what has this to do with the natural disease? We have too many recent examples, to shew the inefficacy of it in preventing eruption, putrefaction, or death. Can any one suppose it essentially right that a patient in the Small Pox, should stand half a day in a river, wet up to his knees, although it may have been done with impunity? But, it may be necessary, that this as well as some other peculiarities, which might be enumerated, should be employed, to draw the attention of curious and distinguishing people from the real object. One great use, I believe, Mr. Sutton's practice in this respect will have; that of impressing the minds of the generality of mankind with an opinion of the necessity of cold air and cold water, in the worst species of the natural Small Pox; and consequently
of

of making it more easy for physicians to procure these comforts, for their languishing patients : which they have long wished ; but found all their rhetoric and authority ineffectual to combat the insuperable prejudices of those who generally attend the sick, under the several denominations of nurses, relations, and good women. That this has been the aim of physicians for some years will hardly be allowed ; and therefore it may be necessary to bring vouchers from the publications of those who have recommended this practice in their writings. Boerhaave says, (Aphor. 1399.) “ In primo initio inflammationis videtur requiri cautela, ne vergat in suppurationem, aut curandum ut minima fiat, quod fit, &c. regimine frigidiusculo, maxime admissu puri & frigidi aëris.” Kirkpatrick observes, “ That we have little to oppose to its most virulent effects, but powerful acids, styptics, and not only free ventilating air, but perhaps the strongest potential cold, we can generate and apply.” (Vid. Analysis of Inoculation, Pag. 82.) The antiphlogistic, that is the cooling, method is likewise recommended by Mead, Freind, Huxham, Hillary, and I believe every other writer,

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Morton

Morton excepted, from Sydenham's to the
 present time. But to return, Dr. Glass
 " thinks it can make but little difference,
 " whether the infectious matter is applied
 " to a slight wound of the skin, on the
 " point of a lancet or a bit of thread."
 That he does not understand, " from
 " whence that moisture is taken, within
 " four days after the operation has been
 " performed, which is used to communicate
 " the infection to a new subject," can only
 be owing to his not having seen many of
 Mr. Sutton's patients. Another difficulty
 is, " why the patient who has not been in-
 " fected from Inoculation, as it is acknow-
 " ledged the operation does not always
 " succeed; or another who comes to the
 " house when the operator is absent, should
 " escape taking it the natural way:" which
 the Doctor imagines must infallibly some-
 times happen, " from their being at his
 " hospital, under all the various stages of
 " Inoculation, in one common room:"
 and therefore concludes " there is certainly
 " some very particular reason, that several
 " of them have not had a confluent kind of
 " Pox." Mr. Sutton's own opinion is, that
 the disease cannot be caught in the natural
 way

way from any of his patients. I know a lady, at that time very fearful of the Small Pox, whom he advised to remain in her own house, as perfectly safe, whilst a large family of children and servants were under his Inoculation there. Really, most of his patients have the disease so very slightly, that one may be easily inclined to his opinion. But, it is not impossible, that he might give this advice upon a full conviction that the lady would not stay : and it is very probable, that when a person comes to his house at a time that he is absent, he may leave directions with his matron, to move any patient that is fuller than common out of the way. In the next paragraph, Dr. Glas has been misinformed, where he says “ these Inoculators despise all precautions to avoid a natural infection, and therefore some of the patients must take it, whether the operation succeeds or not : and yet all have the distinct Small Pox.” Precautions may sometimes be neglected, and in a town where the Small Pox is epidemic, considerable danger of natural infection must be incurred. However, in my hearing, Mr. Peale once expressed a good deal of solicitude on this head. If the natu-

ral infection is taken a few days before the operation is performed, which has often happened here, the time of the coming on of the symptoms sufficiently distinguishes it; if indeed it should so fall out, that when the first operation fails, and is repeated in a few days, the patient should be naturally infected in the intermediate space, a great deal of difficulty might be occasioned: for I cannot imagine any of their medicines would make this sort of Small Pox like to the Inoculated. The danger of accumulating infection may be merely theoretical, and if so, when once the infection has taken place, no more can be added: we see by a case or two in Dr. Kirkpatrick's analysis of Inoculation, that the variolated lint was repeated, and yet those patients did not fare the worse: and therefore perhaps it may not be too strained a conjecture, to suppose a reinfection as impossible, as the long exploded notion of a superfoetation. In contradiction to this supposition may be urged the injuries which many Small Pox patients have evidently received, from being shut up in rooms, or laid in beds, where many others before had died of the disease, or suffered under all its cruelest effects. And we are inform-
ed

ed by Sir John Pringle and Dr. Brocklesby in their useful treatises on camp and hospital diseases, how long the putrid halitus of those of the malignant kind, will remain in rooms, but particularly in beds and bed cloaths, and exert their deleterious influence on fresh comers, even to the third and fourth remove. But I apprehend this can hardly be called reinfection; such a situation would be prejudicial at least to the most healthy: the peculiar effects of the Small Pox virus are probably very soon dissipated, but this malignant vapour, raised by the warmth of an human body, most likely too in a fever, must be, not only inhaled by the lungs, but absorbed at every pore, and largely contribute to increase the naturally septic tendency of this disease. The case of the girl at Honiton is another strong instance, that the free use of cold air, is not alone sufficient to insure success. Lastly, the Doctor comes to the examination of the medicines taken after the operation, and gives a receipt which very likely may be the pill; but I have never seen it administered, so often as every other night, to children: as sweating is not so much insisted on, as he supposes, and as all these medicines however
given

given have failed in the natural Small Pox, even in the hands of Mr. Peale, almost as often as experimented; we may safely, and not with too much precipitancy, conclude that the great success depends on none of these. However the world is much indebted to these gentlemen for their useful endeavours, which are replete with instruction and entertainment.

I should not here take notice of a pamphlet, by an anonymous author, published some time since, under the title of Inoculation made easy; but to observe, that nothing offered on such an occasion can be depended on, unless signed with the author's real name; and therefore how good soever may be the intention, must fail in its effect. It is very possible the medicines may be, as Dr. Glass expresses himself, virtually if not formally the same as Mr. Sutton's; but I believe the author is widely mistaken in the most material point of his information.

In the Gentleman's Magazine for February last, is a paper, signed Cantuariensis; intended, as should seem, to point out the mistakes in Dr. Glass's letter; which are most

most probably owing to his not having been a spectator of Mr. Sutton's practice, but obliged to take such information, as he could get from the accounts of others; who have either misrepresented the facts, or Mr. Sutton has since varied his method. This gentleman says, "As to the eruptive fever, this, strange as it may seem to regular practitioners, is so slight as scarce to deserve that name." But why should this be strange to regular practitioners, when their own Sydenham remarks that this slightness of the eruptive fever, sometimes happens even to the natural Small Pox? "*Quamvis interim hic loci fuerit consentaneum subindicasse, in sanguine laxiori atque evanescente nonnunquam accidere, ut separationis periodus sensim atque gradatim sine insigni aliqua ægritudine transigitur, priusquam expulsiō materiæ, pustularum eruptione se prodāt.*" (Vid. Sydenh. Op. univers. Lond. apud Walt. Kettilby, 1705. Pag. 96.) "We hear afterwards of the trammels of the college, popular prejudice, cold air and wonders." It must be owned that Dr. Glass is mistaken, when he says "that all the persons who are treated in Sutton's method, many of whom take

" it

" it naturally, have a good sort." Nor is
 Cantuariensis quite right, when he answers
 that " this is certainly more than Mr. Sut-
 ton himself will say, and more than is
 fact." I remember to have heard Mr.
 Peale modestly reply, to a question of this
 sort, " that he did not pretend to more
 knowledge, in the natural Small Pox,
 than any other gentleman." Which is
 not easily reconcileable to his and Mr. Sut-
 ton's frequently visiting the patients of other
 practitioners, and giving their own peculiar
 medicines. The conclusion upon this head,
 " that we should hear of no more deaths,
 even by the natural sort, if this, (Dr.
 Glas's) supposition was true," is certainly
 very right: but it unfortunately happens
 that the method is not infallible, and
 therefore will never be universal. With re-
 spect to the very particular case of the lady,
 to whom the most stimulating medicines
 were prescribed, as related by Dr. Glas;
 Cantuariensis thinks it most probable " that
 Mr. Sutton instead of giving the strongest
 cordials, not wine, brandy, &c. would
 have taken a very different method, and
 instead of thinking so much fever or so
 much eruption absolutely necessary, would
 have

“ have pursued as usual his cool regimen
 “ of toast and water, air, &c. and satisfied
 “ with a small eruption, instead of endea-
 “ vouring to compleat it, as it is called, he
 “ would have abated it, and purged the re-
 “ mainder away.” Now it appears, by the
 history of the case, that all these cordials
 could not for two days raise any fever; but
 that her hands and feet were cool, the pupils
 of her eyes dilated, and her flesh flaccid: and
 that the eruption, at last, did not exceed
 an hundred pustules. Therefore I should
 suppose we may conclude, without incur-
 ring the censure of partiality, that this lady
 was very properly treated: the event itself
 shews it; and to judge from events is the
 modern way. What could cold air and
 cold water, unassisted with more powerful
 remedies, have done in this case; would ei-
 ther of these have warmed the patient suffi-
 ciently or have raised her pulse? for, so far
 from her having too much fever, she had
 none at all: and Mr. Sutton himself would
 not wish to purge away an eruption, which
 did not exceed an hundred. That Mr. Sut-
 ton’s method seldomer fails in giving the in-
 fection than the old, is surely a mistake;
 we have often, very often, seen the operati-

on repeated, a case rare indeed in the old way; yet I entirely agree with this gentleman in the superior advantages of the present mode, and for many more reasons than he has favoured us with.

I hope by this time the extracts from the pamphlets so often quoted, have made it sufficiently clear, that Mr. Sutton's success does not depend solely on his mercurial preparation, nor free use of cold air. Sweating, we have ocular demonstration, is quite out of the question, it does not therefore depend on his punch. But, may not the pill have some specific virtue? This should seem a very difficult question, and I shall therefore take leave to answer it by another. What have all the boasted nostrums, arcanums, catholicons and specifics ever been proved at last to be? Certainly and invariably dishonest impositions on the credulity of mankind. The testimony of all ages, to which I appeal, will sufficiently evince the justice of this assertion. With regard to the use of the pill, I shall readily allow, that a little purging may be necessary between the time of Inoculating and the coming on of the eruptive symptoms, notwithstanding the opinion of

Dr.

Dr. Kirkpatrick to the contrary; from the consideration that however well the first passages may have been scoured by the physic, and the vessels emptied by abstinence, something may yet, in an interval of seven or eight days, be collected in the intestines: especially if we take into the account, that the vegetable farinaceous diet these patients are confined to, is the most apt to breed viscidities and foul the bowels of any. For this purpose nothing perhaps can be better contrived than an aloetic purge, either with or without a small proportion of some antimonial. And yet, notwithstanding all that has been said in praise of these medicines, &c. it must be owned that other practitioners have tried them in the old Inoculation, and their patients have sometimes had a full eruption, and consequently not been entirely free from danger. This therefore, may be denied, as a proof of Mr. Sutton's success not depending on his medicines: for such an event has never happened to him, and we may yet be mistaken in the composition of the medicine. But if it shall appear that several, who have been prepared by Mr. Peale himself, have accidentally taken the natural infection, have afterwards been at-

tended by him, have swallowed as many pills as he chose to give them, and yet have died: it will, very fairly, reduce his medicines to the value of those I have been speaking of. A considerable farmer in the parish of Wickham, had a pretty full crop of the natural Small Pox, which however was proceeding regularly through its stages; on the sixth day the pustules were growing very properly, the face and head swelling, and a proper degree of spitting was come on; when the impatience of those about him, made them send to Mr. Peale: who, as I am informed from very good authority, immediately gave him seven pills, ordered him to be taken out of bed, and placed opposite to an open window in the month of February, with future directions, to take a dose of manna and salt every other day till he was well. The pills brought on a violent convulsive vomiting, which had liked to have killed him on the instant: but by the help of some proper, but now so much decried cordials, it was checked: and though the pustules immediately fell, a delirium came on, large blue spots appeared, the swelling of the face subsided, the spitting went quite off, and never could be again restored;

restored; yet with great care, and the farther help of cordials joined with antiseptics, he was at last happily and safely carried through it. A girl of sixteen was prepared by Mr. Peale, and Inoculated at Patricksbourn on Tuesday, the natural Small Pox appeared on Wednesday; here was time enough for the pill to exert itself, but no pill was given; and though Mr. Peale was solely concerned, he endeavoured to save her with a bitter mixture and very four drops, which probably were a decoction of the bark, and elixir of vitriol, however they failed, and the girl died. But, had this celebrated pill been possessed of the powers so liberally ascribed to it, would he not have depended for the cure on that alone? If these were not sufficient, I could enumerate several other cases of this sort: but that would be taking up my reader's time to no purpose.

I shall now, for the convenience of those, who have not seen the pamphlets I have been referring to, or, for want of having been spectators of Mr. Sutton's practice, cannot reconcile the difference of accounts and opinions in those authors, so as to form a certain rule of proceeding out of the whole, relate

late that method which has answered so successfully with me. And when I say my method has been successful, I do not think it sufficient to be understood, that all my patients have got through the disease; that indeed they generally did in the old way of Inoculating: but I can truly add, that they have without one exception gone through the disease so very slightly, as scarce ever to have been sick; not one of them has been obliged to keep within doors, an hour longer than is usual in a state of perfect health; not one of them has had an equivocal eruption, though some few of them have had no other appearance than that on the punctured arm; and the fullest patient has not had a number exceeding two hundred pustules. My patients have taken, if adults, a dose of calomel adapted to their age and strength at bed-time, and purged it off with Glauber's salt the next morning; this has been repeated to the third time, at the intermediate distance of two days from each. Children have sometimes taken a purging powder with calomel, three times, of a morning only. In regard to diet, I have strictly forbid all animal and spiced food, and all fermented liquors, not only during the preparatory

ratory course, but in general through the whole of the disease; constantly advising them to return to their usual way of living gradually and cautiously. On the day following the last dose of physic, I have performed the operation; which I do, by wetting my lancet in the moisture of the pustule which rises on the arm of an Inoculated person, before the little feverishness and general eruption appear; and then making two very small oblique punctures with it in the arm of the person to be Inoculated, directing the instrument not perpendicularly but horizontally, so as to divide the cuticle from the cutis underneath; as soon as the least tinge of blood appears, I wipe my lancet on the wound, and make another puncture in the same manner, immediately pulling down the sleeve, and applying neither plaister nor bandage. From this time I take care to keep my patients cool and open, advising moderate exercise in the open air, and giving to most, except very young children, two or three pills, every other day or thereabout from the fifth after Inoculation; composed of aloes, kermes mineral, and camphire, according to Dr. Glass's receipt. If the preparatory medicines have been inactive, these

these supply their place; if the patient has been irregular, these are as likely as any thing to correct the inconveniencies which may arise from it. And, as something wrong in the habit may often justly be suspected, when the punctures do not inflame so much as usual, I give the pills in such cases somewhat more freely. This is no new observation, it has been often experienced in the old Inoculation, that those patients had the disease most favourably, whose Inoculated arms discovered an earlier inflammation, a more considerable swelling, and a broader disk of the surrounding redness. With children, Glauber's salt or senna tea, and with infants a little manna will very well supply the place of the pills. I do not pretend they have any specific powers, indeed I think they have not, but they are more commodiously carried about, and as easily taken as any other form of medicine. I have Boerhaave's sanction for their use, and a strong probability of their being the same as Mr. Sutton's: I have always seen them operate in the same manner, and answer every intention equally well. From the seventh to the ninth or tenth day I expect my patients to begin to complain a little, but some few entirely escape: then I give nitre dissolved in a decoction of oats, acidulated with

with lemon juice or weak spirit of vitriol, ad libitum. This cooling liquor is agreeable to the palate, assuages their thirst, if they have any, and for the most part proves a little sudorific if taken at bed-time. In a day or two, from their first beginning to complain, the pustules seldom fail to appear, immediately upon which all sickness vanishes, and I have never heard one complaint afterwards.

It ought to be observed, in justice to Mr. Sutton, that every part of his practice in Inoculation, carries with it strong marks of solid judgment and accurate observation. And it will redound much to his honour, and perhaps be no unpleasant labour, to point out the sources from whence he probably has derived some very essential improvements; especially as it will naturally lead us to a discovery of the principal point on which his great success depends: and, considering that he has to all appearance borrowed many hints from authors which are in every body's hands, it is matter of some surprise, that this many parts of his practice have not before been more generally adopted by others. The mercurial preparation was taken probably

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from

from the observation of Dr. Mead before mentioned; and the antimonial pill from the well known opinion of Boerhaave, that in a proper composition of these two powerful medicines, an antidote to the variolous poison might one day be discovered. He says in Aphor. 1391 and 1392. "Quale inveniri posse, comparatio historiarum antidotorum, & indoles hujus mali, faciunt sperare; & ad indagandum impellit summa hinc futura humano generi utilitas.—In stibio & mercurio ad magnam penetrabilitatem arte deductis, nec tamen salinâ acrimoniâ nimium corrosivis, sed bene unitis ut quæramus, incitat aliquis horum aliquando successus." The strictness of diet, and particular method of operating, are recommended by the two earliest writers on the subject, Timoni and Pylarini. (Vid. Motte's Abridgegment, vol i. part 2. pag. 177, & seq.) Pylarini's words are so much to the purpose that I cannot help quoting them. He says, "ad operationem jam celebrandam accedens mulier, frontem in confinio capillorum, & quidem medio in loco; mentum & utrasque genas acuta ferrea vel aurea pungit; non rectâ sed oblique impingendo, cutemque acuta
" cuspide

“ cuspide à subjecta carne aliquantulum se-
 “ parando, hinc eadem acu pus jam præ-
 “ paratum in vulnuscum instillat è vas-
 “ culo, intruditque; superinducta per fas-
 “ ciam ligatura: manus item ambas in me-
 “ tacarpis, pedes in metatarsis eodem modo
 “ ferit, pusque inserit, faciasque leniter
 “ stringit; serico imponendo patienti ne
 “ partes illas scalpat. madefaciatve.” And
 then adds his own judicious improvement,
 “ potius carnosiora pungerem loca, quate-
 “ nus inflammationibus dolorique minus
 “ obnoxia, nec tendinibus inter texta.”

With respect to the diet. “ Bonum in sex
 “ rebus non naturalibus regimen, præcipue
 “ in victu injungit: non solum enim vino
 “ & carnibus, verum etiam earundem jus-
 “ culo rigoroſe patientes ad quadagesimum
 “ diem interdicit.” And of which we have
 had several late instances, “ Pluribusque
 “ monitum non curantibus sæpius male
 “ successit, nam ad oculos, pœna erroris,
 “ novas erupisse pustulas, aliaque non parvi
 “ discriminis symptomata supervenisse, vi-
 “ sum est.” Whether the practice of Ino-
 culating by the incision, was known when
 Pylarini wrote, I cannot exactly tell, per-
 haps it was not: however he approves of the

puncture, and strongly condemns all the other, then practised, methods. “ Præter
 “ hanc operandi formam cæteri omnes re-
 “ jiciuntur modi, utpotè absoni, inusitati,
 “ malè succedentes, infelicisque exitus.”
 That this method of conveying the infection by puncture has many advantages above that by incision, I am fully convinced; and shall instance the much greater certainty of intelligence conveyed by its appearance to an experienced operator, than that of the incision could do. It is of some consequence to know early whether the infection has taken place, but of much greater, to be able to foretel, in some measure, the degree of the future disease, and consequently to regulate it by all the means in our power: of which purging seems to be the most effectual. Here no sore arm remains for the surgeon to dress, no mortifications or abscesses have ever been known to ensue. Though perhaps this last security may be owing to the mildness of the poison infused, more than to any other cause. It may not be amiss to make one observation more on that particular circumstance, of some few persons having run through the disease so very rapidly, as to have had it all over in
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seven days or less from the operation. This seems to be quite a new thing; but, I make no doubt, has frequently happened in the other method; though from the appearance of a wound, it could never be known as it now is from that of the puncture; in consequence of which the patient was left in a disagreeable state of uncertainty. Here then is another reason of considerable weight, for giving the preference to the present mode. Indeed it must be confessed, that the evidence of the Inoculation having taken place has in some very few cases been so trifling, as to leave a doubt on the mind of the most experienced. This however happens but very seldom, and seems to prove that Boerhaave's supposition, of "*nihil repugnet, morbus variolosus sæpe sine variolis fit,*" has more foundation than is generally supposed: for many of these patients have ineffectually endeavoured to get a natural infection afterwards. But the material point, and that on which his great success principally depends, is as I am informed his own discovery, and like many other beneficial ones, owing, it is said to mere accident, and was not his original practice. This is, the taking the infecting humour in a crude state, before
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it has been, if I may be allowed the expression, ultimately variolated by the succeeding fever: that the juices of the person it is taken from, being by diet and medicine, reduced to the mildest and most healthy state possible, may contribute still farther to the mildness of the infection; and that the extreme small quantity which is introduced may likewise be of consequence, we shall not choose to deny. I do not argue that the preparation is of no use, such an one, as that just now mentioned, must be very proper; and it is hoped that nobody will be hardy enough to Inoculate, even in this method, without premising such an one, although the patient might succeed nearly as well. We are told that the Levant physicians do not prepare at all, only requiring their patients to be in health; and yet all accounts agree in their Inoculating with great security: but it should be observed here, that their patients are always in a state of preparation, because they make use of very little animal food, or strong drink.

I should not have presumed to obtrude my opinion thus positively on the world, if it had not stood the test of repeated impartial trials,

trials; and an extensive experience. If farther proofs of the great benefit arising from the use of this mild unconcocted lymph, in giving the Small Pox infection; or of its being Mr. Sutton's constant practice, and the fundamental point on which his security depends, should yet be necessary, I will extract them from Mr. Houlton's appendix to his Sermon lately published. And very unlucky for Mr. Houlton it is, that in this publication, which I suppose he meant for Mr. Sutton's benefit, and therefore intended to draw a thicker curtain than ever over his practice, he has by unfortunately pulling the wrong string, instead of doing what he intended, really removed the very veil which obscured it, and fully laid it open to every discerning eye. Mr. Houlton tells us, " that
 " at the time of the Chelmsford indictment
 " it was asserted by Mr. Sutton's opponents,
 " that they could see Small Pox out in full
 " bloom, on any person who chanced to
 " accompany him thither in his carriage,
 " and that such person was brought to
 " Inoculate from: but that these were gross
 " lies, because it is diametrically opposite
 " to his practice, to Inoculate from such
 " patients." That is, in other words, Mr.
 Sutton

Sutton always Inoculates from patients, who have as yet no eruption. Again, “ the
 “ Grand Jury did not find the bill, but
 “ they observed that Mr. Sutton had been
 “ indiscreet and would admonish him :”
 but, says Mr. Houlton, “ had the Grand
 “ Jury known the nature of Mr. Sutton’s
 “ practice, they would not have censured
 “ him for indiscretion.” That is, had they
 known, that he always Inoculated from a
 patient who had as yet no eruption, and
 from whom therefore no infection could be
 communicated but by the puncture, they
 would have had no thoughts of censuring
 him. A little farther, “ had the indictment
 “ been found, Mr. Sutton would have as-
 “ suredly nonsuited his enemies, and have
 “ proved beyond the possibility of a doubt,
 “ that he never brought into Chelmsford a
 “ patient who was capable of infecting a
 “ by-stander, notwithstanding such patient
 “ could convey infection by Inoculation.
 “ However paradoxical this may seem, it
 “ is truth, and would have been proved
 “ to a demonstration.” All this is easily
 conceived ; I do really believe that an In-
 oculated person, on whom the febrile symp-
 toms and consequent eruption have not yet
 appeared,

appeared, will not infect a by-stander ; but, by Inoculation, I have communicated infection from such to great numbers: and thus the paradox is easily solved. However, it is with the utmost satisfaction, I hear afterwards, “ that the Grand Jury justly
 “ saved Mr. Sutton from being obliged, in
 “ his defence, to discover one of the most
 “ essential parts and secrets of his profes-
 “ sion.” This was all I wanted, an acknowledgment that Inoculating with the crude variolous lymph, was one of the most essential parts and secrets of Mr. Sutton’s profession. And I make no doubt but Mr. Houlton, will have many thanks from that gentleman, for being thus kinder to him than the Grand Jury was.

Left some things farther advanced in Mr. Houlton’s appendix, should seem to invalidate my arguments, I shall now examine it a little closer, and answer them. “ That
 “ Mr. Sutton prevents by virtue of his
 “ medicines the symptoms of a great fever,
 “ or more pustules than his patients would
 “ choose,” is not very likely : for the symptoms of a great fever never happen, and those must be unreasonable people who complain

plain in his Inoculation of too many pustules : a complaint of too few is much more frequent. " That a patient who has twenty " or thirty pustules is said to have the " Small Pox heavy," I cannot deny, for people will say what they please : but I have seen several here, who have had from two to four hundred pustules : and yet I think, even that no objection to the superior excellence of Mr. Sutton's method. If a medicine could be found, as Mr. Houlton observes, that would prevent a too great burden of pustules, such medicine would indeed be inestimable ; but that such an one lies in the breasts of the Sutton family, is an imposition on the world to say : nor does the case referred to at all prove it. That the child might appear on the first and second day extremely full, and that in some hours afterwards, hundreds of the pustules might disappear, may be accounted for several ways, and has been observed by most physicians. A brisk purge given at such a time, a spontaneous hæmorrhage or diarrhœa have frequently effected it. But is it impossible that this apparent fulness might be owing to a rash, so frequently the concomitant of a beginning eruption ?
which

which afterwards naturally going off, might very well leave the little dot on the plain surface of the skin : and Mr. Sutton does not seem deficient in the requisite address to convert such an accident to his advantage. If it was the effect of the medicine alone, why has Mr. Peale been so often unsuccessful in those trials of it, in the natural disease, which he has attempted here ? for it is not likely that his principal would, for his own sake, send him out uninstructed in any requisite branch of his profession. The next case, is that of the family near Ipswich, “ who were Inoculated from Mr. Barnard, “ a few days before his death, and yet every “ one of them had the Small Pox very “ well.” But Mr. Sutton did not by his medicines, any farther than by his preparatory ones, prevent any ill effects arising from it : no medicines were necessary, and, if they had, would most probably have failed. Dr. Frewin says he has known twenty-one persons Inoculated in the same day from a confluent Pock, which finally killed the patient ; yet all those, he affirms, had it in as favourable a way as could be wished. He adds, he has Inoculated many more with matter of the malignant kind,

without the least ill consequence. And I am informed that in the hospital for Inoculation near London, persons have been safely Inoculated, with matter taken after the death of the patient. Mr. Houlton is very angry with the Doctors Glas and Baker, for presuming to draw their pens on this subject. The first of these gentlemen, by resting his opinion of Mr. Sutton's success on the efficacy of his sweating medicines, when those, who are near the scene of action, see that no such medicines are made use of, cannot have done him much prejudice. Dr. Baker's pamphlet seems written with a generous design to extend this practice, as the safest and the best: and has certainly been of more real service to Mr. Sutton, than fifty of his chaplain's sermons, or five thousand such appendixes ever will be. Mr. Houlton, at last, from the nature of his publication expects much abuse: let us hope he will be disappointed, for whatever may be his opinion of abuse, which perhaps may be gathered from his elegant letter to Mr. Pine, it certainly is very much beneath a gentleman to employ it: and, if he had not fortunately chosen a subject of

general

general concern, might perhaps in vain have expected even notice.

But having done with him and the subject, I hope to have sufficiently proved, from the fallibility of Mr. Sutton's medicines, from my own experience, and from Mr. Houlton's information, that the whole affair really rests on that point, to which I have endeavoured to fix it. And if these sheets have any influence in opening the eyes of others, and putting the practice into more hands, I shall think myself amply rewarded for my labour. I am well aware that there are some few gentlemen in this neighbourhood, who have practised this method, and to whom my account will be no discovery. Their success has been equal to Mr. Sutton's, and adds to the validity of my position. The discernment which pointed it out to them deserves applause; but a publication of their discovery would have shewed their disinterestedness, and merited the thanks of mankind. There may be others, who will say I have taken a great deal of pains to tell them what they knew before: but unless they have practised Inoculation with the crude variolous lymph,
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in preference to the concocted matter, such an assertion will prove nothing, or will prove too much.

I cannot conclude without recommending this safe and easy operation to every one, who is still in danger of so intractable a disease as the natural Small Pox. And must here congratulate all who have gone through it, but particularly my fair countrywomen, on this triumph over their greatest terror and most implacable adversary. For, though Great-Britain, as Mr. Garrick politely says,

— — — — — justly claims

The Grecian title, land of lovely dames; yet I foresee with pleasure, from this daily saving of fine faces, the national stock will be so much increased, that in a very short time, this happy island will exceed in the number of its beautiful women even the celebrated province of Circassia.

P O S T.

P O S T S C R I P T.

SINCE the foregoing sheets were at press, Dr. Dimsdale has again advertised his account of the present method of Inoculation. From the delay attending the publication of this work, I imagined the Doctor had laid the design entirely aside; for had it appeared otherwise to me, every attempt of this sort would have been superseded on my side. I have used my endeavours with a disinterested view to the benefit of mankind, and should have been very glad to have seen the subject explained by any other writer; particularly by one better qualified, and more equal to the arduous task of appearing thus publicly as an author.

F I N I S.

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P O S T S C R I P T

SINCE the foregoing sheets were at press
Dr. Lindale has again submitted his
account of the present method of vaccination
from the help attending the publication of
this work, I imagined the Doctor had had
the design of adding for his improvement
something to me, every one of which
would have been of great service to
have been added to the work, and I should
view to the benefit of the public, and I should
have been very glad to have seen the subject
explained by any person equally
by the better quality of the paper, and
the various parts of the work, and I should
as an author.



F I N I S